

# PowerHawk 6312

ANSI C12.20, 0.5 multi-point submeter deploying up to twenty-four 80mA solid-core CTs in revenue-grade, regulated applications. Configurable as 24 single-phase, 12 two-phase or 8 three-phase meters. Ethernet communications with native BACnet IP, Modbus TCP, plus optional integrated V.90 telephone modem or Modbus RTU interface.



Product Specification

## Product Numbers and Variants

| Product Number | Product Name                                       | Listings/Approvals for Revenue Applications * |
|----------------|----------------------------------------------------|-----------------------------------------------|
| 910-133-01     | Triacta PowerHawk 6312 ETH (120V,60Hz)             | MC                                            |
| 910-133-01 RTU | Triacta PowerHawk 6312 ETH + RTU (120V,60Hz)       | MC                                            |
| 910-133-05     | Triacta PowerHawk 6312 ETH (277V,60Hz)             | MC                                            |
| 910-133-05 RTU | Triacta PowerHawk 6312 ETH + RTU (277V,60Hz)       | MC                                            |
| 910-633-01     | Triacta PowerHawk 6312 ETH (120V,60Hz) NY/MD       | NYPSC, MDPSC                                  |
| 910-633-01 RTU | Triacta PowerHawk 6312 ETH + RTU (120V,60Hz) NY/MD | NYPSC, MDPSC                                  |
| 910-733-01     | Triacta PowerHawk 6312 ETH (120V,60Hz) CA          | CDFA                                          |
| 910-733-01 RTU | Triacta PowerHawk 6312 ETH + RTU (120V,60Hz) CA    | CDFA                                          |
| 910-733-05     | Triacta PowerHawk 6312 ETH (277V,60Hz) CA          | CDFA                                          |
| 910-733-05 RTU | Triacta PowerHawk 6312 ETH + RTU (277V,60Hz) CA    | CDFA                                          |

\* MC - Measurement Canada, NYPSC - New York Public Service Commission, MDPSC - Maryland Public Service Commission, CDFA - California Dept of Food and Agriculture

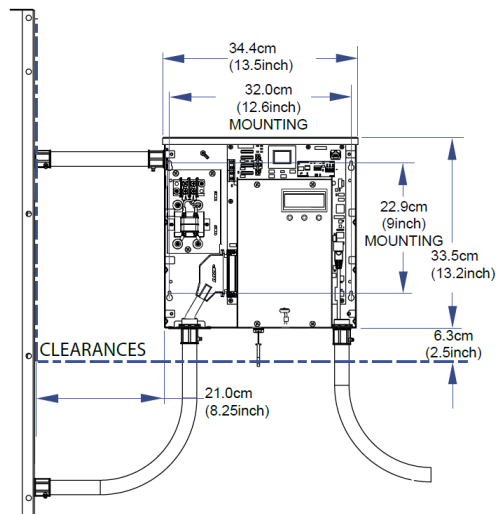
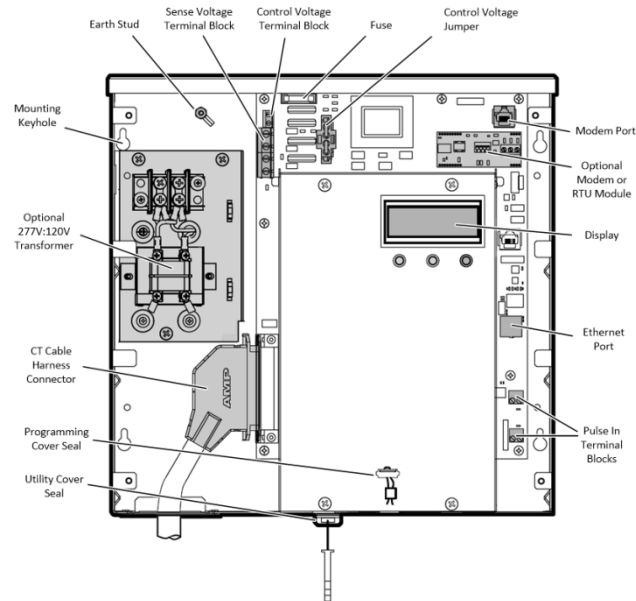
## Features and Specifications

- Electronic solid state device configurable as:
  - 24 single-phase meters
  - 12 two-phase or three-phase Delta meters
  - 8 three-phase Wye meters
- 4-quadrant meter measures total and per phase:
  - Active, Reactive & Apparent Power
  - Peak W and VA Demand
  - PF and phase angles
  - Irms, Vrms
- Interfaces to 80mA output CTs or 5A:80mA CT convertors
- 2 pulse inputs for connecting other meters
- Service voltages up to 277V with no external PTs
- On-board Liquid Crystal Display
- On-board non-volatile flash memory is unaffected by power outages and holds up to 2 years of meter data (1 hour intervals for 20 years)
- On-board real-time clock with battery back-up holds time up to 10 years
- Two on-board pulse inputs (2 wire) compatible with dry form A and solid state form A contacts, collect data from other pulse-out meters (gas, water or electric)
- Multi-point economic efficiencies for retrofit or new construction
- Remotely configurable and upgradable with Ethernet connectivity

## Reporting and Communications

- AMR via FTP data push over IP or (optional) MODEM;
  - Plain text CSV file
  - Measurement Interval: 1 to 60 minutes
  - Reporting interval: once/day or every N min.
- Logged Measurements for AMR (interval and register):
  - Wh delivered & received
  - VARh delivered & received
  - VAh
  - Peak W & VA Demand
  - Present W & VA Demand
  - Peak Current
  - Vrms
  - Pulse counts x 2 inputs
- BAS Integration via BACnet IP, Modbus TCP/IP, or (optional) Modbus serial RTU.
- On-board Web server and Liquid Crystal Display for local readings
- Ethernet Interface
  - 10/100BaseT Full Duplex
  - DHCP Client or static IP address
  - Passive FTP port 21
  - NTP port 123
  - Modbus TCP/IP port 502
  - BACnet IP port 47808
  - HTTP port 80

## Internal View and Dimensions



## Specifications

|                                                                                                                |                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MECHANICAL</b>                                                                                              |                                                                                                                                                               |
| Dimensions                                                                                                     | Height: 13.2 in. (33.5cm)<br>Width: 13.5 in. (34.3 cm)<br>Depth: 2.5 in. (6.4 cm)                                                                             |
| Weight                                                                                                         | 9.5 lb. (4.4 kg)                                                                                                                                              |
| <b>ELECTRICAL</b>                                                                                              |                                                                                                                                                               |
| Sense (Service) Voltage<br>– With control voltage jumper removed<br>– All Control Voltage variants except 277V | 100V to 300V 50/60Hz<br>– 2W+N+Protective Earth<br>– 3W+N+Protective Earth Wye<br>– 3W+Protective Earth Delta                                                 |
| Control Voltage and Current                                                                                    | 120V variant                    +/- 12V, 125 mA 60 Hz<br>230/240V variants        +/- 24V, 63 mA 50/60 Hz<br>277V variant                +/- 28V, 54 mA 60 Hz |
| Fuse rating (F1)                                                                                               | 120V & 277V variants:    T125 mA, 250V                                                                                                                        |
| Required Current Transformers<br>Measurement Category III                                                      | 80 mA secondary CT<br>Meter burden: 4.1 ohms<br>CT burden: 20 ohms<br>Must be UL recognized/listed                                                            |
| Pulse inputs 1 and 2                                                                                           | Dry form A and solid-state form A compatible<br>Internal 3.3V pull-up<br>Maximum frequency 10 Hz<br>Minimum pulse width 20 MS                                 |
| <b>REGULATORY</b>                                                                                              |                                                                                                                                                               |
| Measurement accuracy<br>(0.5% with 0.3% CTs)                                                                   | ANSI C12.1 and C12.20 Class 0.5<br>IEC 62053-22 Class 0.5S                                                                                                    |
| Safety                                                                                                         | IEC/EA/UL/CSA 61010-1 3 <sup>rd</sup> Edition, CSA C22.2, No. 61010-1-04,<br>CE directive 2014/35/EU                                                          |
| Emissions                                                                                                      | FCC Part 15, ICES003, EN55022, IEC 6100-4-5 - Class B,<br>CE directive 2014/30/EU                                                                             |
| Surge power/telephone lines                                                                                    | 47 CFR Part 68, CS-03                                                                                                                                         |
| RoHS                                                                                                           | CE directive 2011/65/EU                                                                                                                                       |
| <b>COMMUNICATIONS AND MEMORY</b>                                                                               |                                                                                                                                                               |
| On-board Ethernet port                                                                                         | 10/100 BaseT, Full Duplex                                                                                                                                     |
| On-board modem (optional)                                                                                      | V.90                                                                                                                                                          |
| On-board Modbus RTU serial port (optional)                                                                     | RS422 or RS485 19200/9600 Baud                                                                                                                                |
| BACnet                                                                                                         | ASHRAE 135-1, BTL Listed B-SA                                                                                                                                 |
| Non-volatile memory storage                                                                                    | Up to 2 years of data at 1-hour data intervals,<br>20 Years storage time                                                                                      |
| <b>ENVIRONMENTAL</b>                                                                                           |                                                                                                                                                               |
| Operating temperature                                                                                          | -20 to 70°C                                                                                                                                                   |
| Operating humidity                                                                                             | 5% to 90% non-condensing                                                                                                                                      |
| Usage environment                                                                                              | Indoor or enclosed outdoor environment                                                                                                                        |
| Maximum altitude                                                                                               | 9843 ft (3000 m)                                                                                                                                              |
| Pollution degree                                                                                               | 2                                                                                                                                                             |
| Installation category                                                                                          | II                                                                                                                                                            |
| Measurement category                                                                                           | III                                                                                                                                                           |